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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/785,054

02/25/2004

Jung Ho Song

P69538US0

8562

7590

12/22/2004

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EXAMINER

DICKEY, THOMAS L

ART UNIT

PAPER NUMBER

2826

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/785,054

Applicant(s)

SONG ET AL.

Examiner

Thomas L Dickey

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
4a) Of the above claim(s) 6-9 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,4 and 5 is/are rejected.
7) ☒ Claim(s) 2 and 3 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02/25/2004.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Art Unit: 2826

DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of Group II (claims 1-5) in the reply filed on 11/01/2004 is acknowledged. The traversal is on the ground(s) that the "semiconductor device defined in claims 1-5 is manufactured by the process of claims 6-9, and thus, claims 1-9 define a single inventive concept." This is not found persuasive because, under MPEP § 806.05(f), the inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In other words, the product claims and the method claims are drawn to the same invention only if (1) the process as claimed can-not be used to make other and materially different product and (2) the product as claimed cannot be made by another and materially different process. As has been previously explained, in the instant case unpatentability of the Group II product invention would not necessarily imply unpatentability of the Group I process invention, because the product of the Group II invention could be made by a materially different process from that of the Group I invention. For example, the product of claim 1 could be made by a process which includes a first step of forming an active layer and a first n-type clad layer on a p type substrate, a second step of etching only the n-type clad layer using a

Art Unit: 2826

mask, and a third step of etching the active layer and the p type substrate using the etched clad layer as a mask, a process materially different from the process of claim 6.

The requirement is still deemed proper and is therefore made FINAL.

Oath/Declaration

2. The oath/declaration filed on 02/25/2004 is acceptable.

Drawings

3. The formal drawings filed on 02/25/2004 are acceptable.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

5. The Information Disclosure Statement filed on 02/25/2004 has been considered.

Specification

6. The title of the invention is not descriptive. The title should refer to the inventive features of the claimed invention. A new title is required that is clearly indicative of the invention to which the claims are directed.

Art Unit: 2826

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by PAOLI (5,742,631).

Paoli discloses a semiconductor device with a substrate 102 etched into a mesa structure 500; an active layer 134 formed on the mesa structure 500 and being a core of a waveguide; a first clad layer 136 formed on the active layer 134; a current blocking layer 124 formed on the etched substrate 102 in both sides of the mesa structure 500; an etch-stop layer 502 formed on (i.e., above) the first clad layer 136 and the current blocking layer 124; a second clad layer 137 formed on the etch-stop layer 502 being located on an upper portion of the mesa structure 500 with a predetermined width; an ohmic contact layer 138 formed on the second clad layer 137; a first electrode 148 contacted with the ohmic contact layer; a second electrode 147 formed on the bottom of the substrate 102, and a layer 139 for planarization in both sides of the second clad layer 137 and the ohmic contact layer, wherein the second clad layer 137 may be (it may be of either conduction type, note column 7 lines 35-36) a p type semiconductor layer. Note

Art Unit: 2826

figure 5 and column 5 lines 38-42, column 7 lines 35-36 and 51-63, and column 8 lines 1-13 of Paoli.

Allowable Subject Matter

8. Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

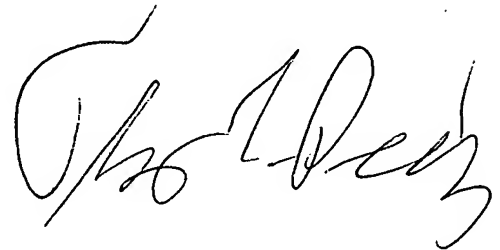
Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas L Dickey whose telephone number is 571-272-1913. The examiner can normally be reached on Monday-Thursday 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2826

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Thomas L. Dickey', is positioned above the printed name.

Thomas L. Dickey
Patent Examiner
Art Unit 2826
12/04